

REMARKS

Claims 2-8, and 10-12 remain in this application. Claims 1-9, 12 and 13 are rejected. Claims 10 and 11 are objected to. Claims 1, 9 and 13 are cancelled herein. Claims 2, 3, 5-8, and 10-12 are amended herein to address matters of form unrelated to substantive patentability issues. For example, reference numerals are removed as the elements of the claims are not considered limited to specific corresponding structures in the drawings. Other formal matters are attended to that were not addressed by the Examiner and accordingly are considered unrelated to substantive patentability issues. For the convenience of the Examiner, APPENDIX I is provided herewith having a complete set of pending claims with all amendments effected therein.

CLAIM REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claim 7 is rejected as indefinite under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter of the invention as a result of informalities stated in the Office Action. The claim is amended to remove or correct the informalities noted in the Office Action.

Therefore, reconsideration of the rejection of the claim and its allowance are earnestly requested.

CLAIM REJECTIONS UNDER 35 U.S.C. § 102(b)

Claims 1, 6-8 and 13 are rejected under 35 U.S.C. § 102(b) as being anticipated by the Okada reference. Claims 1 and 13 are now cancelled rendering said rejections thereof moot. Claims 6-8 now depend from claim 2 redentinering the rejections moot.

CLAIM REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 2 and 5 are rejected as obvious over the Okada reference in view of the Moriwaki '480 reference under 35 U.S.C. §103(a). The applicant herein respectfully traverses this rejection. For a rejection under 35 U.S.C. §103(a) to be sustained, the differences between the features of the combined references and the present invention must be obvious to one skilled in the art.

Claim 2 is now in independent form including all the limitations of claim 1. Claim 2 recites that the thickness of the shorter-side walls is greater than the

thickness of the longer-side walls. The claim also provides the following interrelation of thickness ratios:

wherein the shorter-side plates are made larger in thickness than the longer-side plates such that a thickness of the shorter-side plates is A, that a thickness of the longer-side plates is B, and that a thickness of the bottom plate is C, a relationship among them is given as:

$$B = \alpha A \text{ (} 0.6 < \alpha < 1.0 \text{), and}$$

$$A = \beta C \text{ (} 0.2 < \beta < 0.8 \text{)}.$$

In contrast the Moriwaka '480 reference discloses a metal case where in the short side walls and the long side walls are the same thickness. The Examiner's attention is directed to Fig. 4d wherein this is clearly shown that the side walls are of the same thickness. Moriwaki fails to appreciate the combination of thicknesses of varying the side walls relative to each other and setting the bottom thickness as claimed. The Okada reference, as admitted by the Examiner, does not interrelate the thickness of the sides to the bottom.

Claims 3-5, 9 and 12 are rejected as obvious over the Moriwaki '124 reference in view of the Okada reference under 35 U.S.C. §103(a). The applicant herein respectfully submits that this proffered combination of references fails to provide the teachings missing above with respect to claim 2.

Claim 9 is cancelled. Claims 3-5 depend from claim 2. Claim 10 is independent and indicated as having allowable subject matter. It is submitted that

claim 10 should have been allowed in the present Office Action. Claim 12 now depends from claim 10.

Thus, it is respectfully submitted that the rejected claims are not obvious in view of the cited references for the reasons stated above. Reconsideration of the rejections of claims 2-8 and 12 and their allowance are respectfully requested.

PARAGRAPH FOR SUBSTITUTE SPECIFICATION AND ABSTRACT

Applicant submits herewith a substitute specification and abstract wherein amendments are effected to place the text thereof into proper English in accordance with 37 CFR 1.125(c). Also accompanying this amendment is a reproduction of the original specification and abstract with markings indicating the amendments effected in the substitute specification in accordance with MPEP §608.01(q) and 37 CFR 1.125(b). No new matter is added. Entry of the substitute specification and abstract is respectfully requested.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited. Please charge any deficiency or credit any overpayment to Deposit Account No. 10-1250.

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APPENDIX I

ALL PENDING CLAIMS WITH AMENDMENTS EFFECTED THEREIN

1. (Cancel)

2. (Currently Amended) A prismatic battery case, comprising:

substantially rectangular shorter-side plates;

longer-side plates connecting the shorter side plates along side edges; and

a bottom plate connecting bottom edges of said shorter-side plates and said longer-side plates;

wherein the shorter-side plates are made larger in thickness than the longer-side plates such that a thickness of the shorter-side plates is A, that a thickness of the longer-side plates is B, and that a thickness of the bottom plate is C, a relationship among them is given as:

$$B = \alpha A (0.6 < \alpha < 1.0), \text{ and}$$

$$A = \beta C (0.2 < \beta < 0.8).$$

3. (Currently Amended) The prismatic battery case according to claim 2, wherein the prismatic battery case is made of a carbon steel for use in cold rolling that is composed principally of iron and contains carbon in an amount of 0.1 wt % or less.

4. (Original) The prismatic battery case according to claim 3, wherein the carbon steel contains at least one of titanium and niobium in an amount of 0.1 wt % or less.

5. (Currently Amended) The prismatic battery case according to any one of claims 2 to 4, wherein the prismatic battery case is processed such that an HV value, which represents Vickers hardness, of the processed side plate is 1.5 times or above larger than an HV value of an unprocessed metal material composed principally of iron.

6. (Currently Amended) The prismatic battery case according to claim 2, wherein the prismatic battery case is made of aluminum or aluminum alloy.

7. (Currently Amended) The prismatic battery case according to any one of claims to 4 and 6, wherein upper edges of the longer-side plates and the shorter-side plates which define an opening to be sealed when the battery is constructed are made at least 10 % or more larger than a thickness of adjacent lower portions of the longer-side plates and the shorter-side plates.

8. (Currently Amended) A prismatic battery comprising:
an element for electromotive force; and
the prismatic battery case set forth in any one of claims 2 to 4 and 6, the battery case being for accommodating the element for electromotive force.

9. (Cancel)

10. (Currently Amended) A prismatic battery case manufacturing method comprising:

a first process step for forming a first intermediate cup element having a substantially elliptic cross section by subjecting a battery case material punched into a predetermined shape to deep drawing;

a second process step for forming a second intermediate cup element having a substantially elliptic cross section which is smaller in minor-axis-diameter to major-axis-diameter ratio than the cross section of the first intermediate cup element by subjecting the first intermediate cup element to redrawing successively in a plural stages; and

a third process step for forming a prismatic battery case having a substantially rectangular cross section in which a shorter-side plate is made larger in thickness than a longer-side plate by subjecting the second intermediate cup element to DI processing, wherein drawing and ironing are performed successively at a time.

11. (Currently Amended) The prismatic battery case manufacturing method according to claim 10, wherein, at least in a first redrawing at the second process step, with use of a drawing die having a substantially elliptic drawing hole whose major-axis-diameter is 5 to 20 % longer than a major-axis-diameter of the first intermediate cup element, the first intermediate cup element is given a substantially elliptic cross section which is smaller in minor-axis-diameter to major-axis-diameter ratio than the cross section of the first intermediate cup element by performing drawing in such a way that only the dimension in a minor-axis-diameter direction is reduced without restricting the dimension in a major-axis-diameter direction.

12. (Currently Amended) The prismatic battery case manufacturing method according to any one of claims 10 and 11, wherein the battery case material is punched into a substantially oval shape at the first process step.

13. (Cancel)